MCP2517FD click

PID: MIKROE-2379

MCP2517FD click is a complete CAN solution which carries the MCP2517FD CAN FD controller and ATA6563 high-speed CAN transceiver from Microchip, as well as a DB9 9-pin connector.
The click requires both 3.3V and 5V power supply. It communicates with the target microcontroller through the SPI interface, with additional functionality provided by the following pins on the mikroBUS™ socket: AN, PWM, INT, TX, and RX.
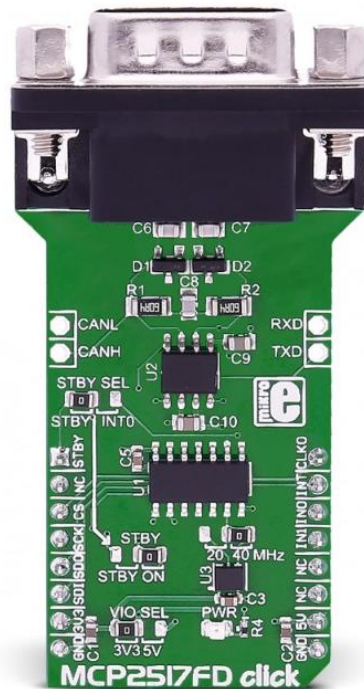
Note: For selecting the interface voltage level, use the onboard jumper, and choose between the 3.3V and 5V. For more information, see the Jumpers and Settings table below.

MCP2517FD features

The MCP2517FD is a cost-effective and small-footprint CAN FD controller that can be easily connected to a microcontroller over an SPI interface. Therefore, a CAN FD channel can be easily added to a microcontroller that is either lacking a CAN FD peripheral, or that doesn't have enough CAN FD channels.

The MCP2517FD supports both, CAN frames in the Classical format (CAN2.0B) and CAN Flexible Data Rate (CAN FD) format.
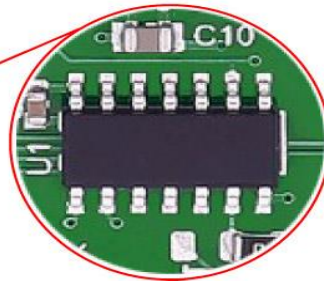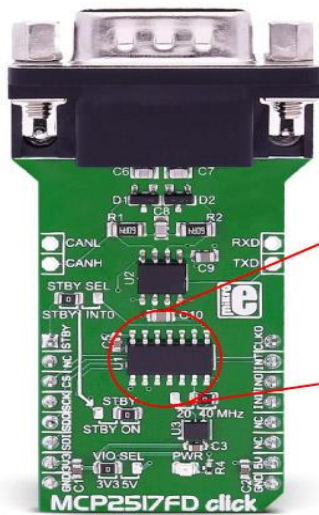
- CAN FD mode
- CAN 2.0B mode
- Data Bit Rate up to 8Mbps
- Sleep current: 10µA

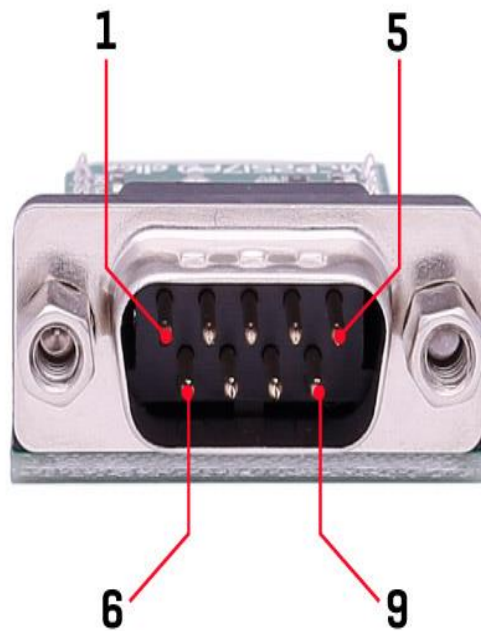# ATA6563 CAN transceiver features

ATA6563 is a high-speed CAN transceiver that provides an interface between a controller area network (CAN) protocol controller and the physical two-wire CAN bus.
The transceiver is designed for high-speed (**up to 5Mbit/s**) CAN applications in the automotive industry, providing differential transmit and receive capability.
It offers improved electromagnetic compatibility (EMC) and electrostatic discharge (ESD) performance.

Connector features

This is a standard DB 9-pin male connector.

Specifications

Type	CAN
Applications	Simple solution for adding CAN FD connectivity to your device
On-board modules	9-pin CAN connector, ATA6563 CAN transceiver
Key Features	Communication speed up to 5Mbit/s, low electromagnetic emission (EME) and high electromagnetic immunity (EMI)
Interface	SPI
Input Voltage	3.3V or 5V
Compatibility	mikroBUS
Click board size	L (57.15 x 25.4 mm)

Pinout diagram

This table shows how the pinout on **MCP2517FD click** corresponds to the pinout on the mikroBUS™ socket (the latter shown in the two middle columns).

Notes	Pin	mikro™ BUS				Pin	Notes
Standby control IP	**STBY**	1	AN	PWM	16	**CLKO**	Clock OP
	NC	2	RST	INT	15	**INT**	Interrupt OP
Chip select	**CS**	3	CS	TX	14	**INT0**	Int/GPIO 0 / ATA6563 StdBy
SPI Clock	**SCK**	4	SCK	RX	13	**INT1**	Int/GPIO 1
SPI data OP	**MISO**	5	MISO	SCL	12	NC	
SPI data IP	**MOSI**	6	MOSI	SDA	11	NC	
Power supply	+3.3V	7	3.3V	5V	10	**+5V**	Power supply
Ground	**GND**	8	GND	GND	9	**GND**	Ground

Additional pins

Name	I/O	Description
TX_CAN	I	CAN transmit
RX_CAN	O	CAN receive
CANL	I/O	CAN low line
CANH	I/O	CAN high line

Jumpers and settings

Designator	Name	Default Position	Default Option	Description
JP1	VIO.SEL.	Left	3V3	Power Supply Voltage Selection 3V3/5V, left position 3V3, right position 5V
JP2	STBY	Right	ON	Select Stand by function, default ON, other takes the STBY SEL configuration
JP3	STBY SEL	Left	STBY	Takes STBY input from STBY pin or INT0 pin on mikroBUS™
JP4		Right	40MHz	Selects between 20 and 40 MHz clock

LEDs and buttons

Designator	Name	Type	Description
CN1		CONNECTOR	DB9 connector for CAN